ARGUMENTS/REMARKS

In the Office Action of January 9, 2008 (the "Office Action"):

1. The Drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: The specification on page 10, lines 14-15 recites (including units 301-304" which is different from the unit numbers shown on Fig. 1.
2. Claims 154 and 161 are objected to because these claims contain the acronym "BOT" without providing the original words for this acronym.
3. Claim 112 is rejected under 35 USC 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention with respect to the term "substantially".
4. Claim 113 is rejected under 35 USC 112, first paragraph as failing to comply with the written description requirement.
5. Claims 112-161 are rejected under 35 USC 103(a) as being unpatentable over Chang et al (2003/125964 A1) in view of Rhoads et al (7,113,615 B2).

0. Preliminary Matters

In the present communication, the specification has been amended to correct a word processing error by moving the text "what computer platform and operating system was used)," to its correct location. It is believed that the error is readily apparent to those of ordinary skill in the art and the paragraph is understandable to them from its context even in its uncorrected form. No new matter has been added by the movement of the text from its erroneous to its corrected location within the paragraph.

In the Preliminary Amendment filed October 15, 2007, FIGS. 7 and 8 were amended and replacement sheets provided. However, the Office Action fails to indicate whether the submitted replacement sheets are accepted. Applicant respectfully requests that official acceptance of these amended drawings be provided so as to be part of the record in the present application.

1. Objection to the Drawings

In the Preliminary Amendment filed October 15, 2007, the specification was amended on page 10, line 15, to replace "301-304" with --101-104--. Therefore, the objection to the drawings is believed to be in error.

2. Objection to Claims 154 and 161 because of the term BOT

The term "BOT" is believed to be a well-known term in computer programming that is an abbreviation for "robot" or more particularly, a computer program that runs automatically such as a software agent. See, e.g., "www.webopedia.com/TERM/bot.html" and "www.acronyms.thefreedictionary.com/BOT" (copies of WebPages attached). Thus, the term "BOT" is not really an acronym. Therefore, reconsideration of the objection to the term is respectfully requested.

3. Rejection of Claim 112 under 35 USC 112, 2nd paragraph

Claim 112 has been amended so that the phrase "the size of the adjunct to the content is substantially unchanged through the successive modifications of the adjunct to the content" has been replaced by "the adjunct is smaller than a concatenation of the copier related information", and with such amendment, the rejection of this claim under 35 USC 112, 2nd paragraph is believed to be overcome. A similar amendment has been made to claim 124.

To support this amendment to claim 112, see the example starting on page 10, line 28 (using equation 1) in which the size of the adjunct does not change. See also, however, the example starting on page 27, line 26 (using equation 7) in which the size of the new adjunct increases over the size of the previous adjunct by the size of the term "B2"

(which is a fixed size). In this second example, although the size of the adjunct changes, the adjunct is still smaller than a concatenation of the copier related information since the increase (i.e., the size of the term "B2") is significantly less than the size of the original adjunct (i.e., A(0) > B2).

4. Rejection of Claim 113 under 35 USC 112, 1st paragraph

Claim 113 is cancelled herein without prejudice. Therefore, the patentability of this claim is no longer an issue.

5. Rejection of Claims 112-161 under 35 USC 103(a) in view of Chang et al. and Rhoads et al.

It is well established that in order to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. See *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

The Office Action fails to establish prima facie obviousness with regard to Claim 112, because not all limitations of that claim are found in the combination of Chang et al. and Rhoads et al. as explained below. In order to teach all elements of Claim 112, the combined teachings of Chang et al. and Rhoads et al. must include:

1. performing a functional transformation on an adjunct to content,
2. the functional transformation must be performed each time an authorized copy of the content is generated in a succession of copies of the content,
3. the functional transformation on the adjunct must be performed so that the adjunct is modified to include copier related information for the generation of each such authorized copy,

4. the functional transformation is characterized by an inverse transformation from which the copier related information for each such authorized copy is retrievable from the modified adjunct, and
5. the adjunct is smaller than a concatenation of the copier related information for the succession of copies of the content.

A watermark is identified in the Office Action as being representative of claim 112's adjunct to content and is common to Chang et al. and Rhoads et al.

Chang et al. describes updating its watermark "by adding the consumer's IDxxxx to the watermark's history data." (See paragraph [0050] of Chang et al.). This suggests that Chang et al. uses what applicant describes as a "direct" approach for adding content distribution information to the adjunct. Using this approach, the new user information is serially added or concatenated to the adjunct each time the content is copied, which results in the adjunct significantly growing as the content distribution path gets longer. Thus, objectionable deterioration in the quality of the underlying content may result. See, e.g., page 5, line 23 to page 6, line 10 of the application for a description of the "direct" approach apparently being used in Chang et al. and the "indirect" approach being used in applicant's invention.

Thus, Chang et al. fails to teach the method as recited in claim 112 that results in an "adjunct that it is smaller than a concatenation of the copier related information for the succession of copies of the content". Therefore, the Office Action relies on Rhoads et al. for teaching this element of claim 112. As explained below, however, Rhoads et al. also fails to teach this element of the claim.

As a preliminary matter it is noted that applicant describes the use of an exclusive-OR (XOR) operation as one example of a functional transformation. See the example starting on page 28, line 17 of the application.

It is also noted that Rhoads et al. teaches performing an XOR between a raw bit (of an encoded message) and each bit of a pseudo random binary number of a pre-determined length to spread the raw bit as part of the process of creating a watermark signal. See Col. 18, lines 12-14 of Rhoads et al. However, to be properly combined with Chang et al. to render Claim 112 obvious, Rhoads et al. must do more than just merely show the use of an XOR operation to perform a function. It must teach the use of an XOR operation to perform the functional transformation as recited in Claim 112.

In particular, where the adjunct to content is a watermark, such as the case in Chang et al. and Rhoads et al., in order to teach this element of Claim 112, the watermark must be "smaller than a concatenation of the copier related information for the succession of copies of the content," which is not the case in Chang et al., as previously explained, nor is it the case in Rhoads et al.

With respect to Rhoads et al., although there is no discussion of copier related information or the storage of such information for a succession of copies of the content, it is reasonable to assume that if such information were stored in the watermark, it would be provided in the binary message. It is further reasonable to presume that the copier related information would be concatenated in the message since there is nothing to suggest otherwise in Rhoads et al. The watermark in Rhoads et al. also includes much more than a single copy of the binary message. As described in reference to a message encoder 800

of FIG. 8, error detection bits are generated, the error detection bits are added to message bits 802, and raw bits are generated by an error correction coding operation from the combined message bit string. See Col. 17, lines 48-56.

A spread spectrum modulator 804 then spreads each raw bit by performing an exclusive-OR operation between the raw bit and each bit of a pseudo random binary number of a pre-determined length. See Col. 18, lines 7-16. Thus, the XOR operation in Rhoads et al. actually increases the number of raw bits (corresponding to the message) by the length of the pseudo random binary number. Note that the statement "preferably, the pseudo random number should contain roughly the same number of zeros and ones, so that the net effect of the raw bit on the host image is zero," does not mean that the size of the watermark is not increased by the spread spectrum operation. It only means that the net effect of the raw bit on the host image is zero since the number of times that the value of the raw bit is inverted is the same as the number of times the value remains the same as a result of the XOR operation. See Col. 18, lines 16-22.

Thus, because of the processing performed on the message bits 802, it cannot be stated with certainty that the watermark is "smaller than a concatenation of the copier related information for the succession of copies of the content," as required to teach this element of Claim 112.

Accordingly, Claim 112 is believed to be patentable under 35 USC 103(a) over Chang et al. and Rhoads et al. for the foregoing reasons.

Claims 114-123 are also believed to be patentable under 35 USC 103(a) over Chang et al. and Rhoads et al. since they depend from Claim 112, and as such, are believed to be patentable for at least the same reasons as stated in reference to Claim 112.

Claim 124 is an apparatus claim corresponding to the method Claim 112, and therefore, is believed to be patentable under 35 USC 103(a) over Chang et al. and Rhoads et al. for basically the same reasons as stated in reference to Claim 112.

Claim 125 is believed to be patentable over Chang et al. and Rhoads et al. because it involves "sequentially performing an inverse transformation on and extracting content distribution from an adjunct of a copy of the content until information of an original copy of the content is detected," and such a sequential performing of an inverse transformation is not disclosed in Chang et al. In particular, since Chang et al. apparently simply adds or concatenates new user information each time content is re-distributed, only a single extraction of the watermark from the content is presumed necessary to retrieve the history data. Rhoads et al., on the other hand, does not even discuss the storage and extraction of content distribution information in an adjunct to content.

Accordingly, Claim 125 is believed to be patentable under 35 USC 103(a) over Chang et al. and Rhoads et al. for the foregoing reasons.

Claims 126-135 are also believed to be patentable under 35 USC 103(a) over Chang et al. and Rhoads et al. since they depend from Claim 125, and as such, are believed to be patentable for at least the same reasons as stated in reference to Claim 125.

Claim 136 is an apparatus claim corresponding to the method Claim 125, and therefore, is believed to be patentable under 35 USC 103(a) over Chang et al. and Rhoads et al. for basically the same reasons as stated in reference to Claim 125.

Claim 137 claims a method including "performing a functional transformation on an adjunct to content in a packet of data when the packet of data is relayed by a network node so that the adjunct is modified to include identifying information of the network node," and such a method is neither taught nor suggested by Chang et al. or Rhoads et al., alone or in combination with each other.

Accordingly, Claim 137 is believed to be patentable under 35 USC 103(a) over Chang et al. and Rhoads et al. for the foregoing reasons.

Claims 138-142 are also believed to be patentable under 35 USC 103(a) over Chang et al. and Rhoads et al. since they depend from Claim 137, and as such, are believed to be patentable for at least the same reasons as stated in reference to Claim 137

Claim 143 claims a method including "sequentially performing an inverse transformation on and extracting content distribution information from an adjunct to content in the packet of data until information of a source of the packet of data is detected, wherein the content distribution information has been included in the adjunct using a functional transformation corresponding to the inverse transformation," and such a method is neither taught nor suggested by Chang et al. or Rhoads et al., alone or in combination with each other.

Accordingly, Claim 143 is believed to be patentable under 35 USC 103(a) over Chang et al. and Rhoads et al. for the foregoing reasons.

Claims 144-156 are also believed to be patentable under 35 USC 103(a) over Chang et al. and Rhoads et al. since they depend from Claim 143, and as such, are believed to be patentable for at least the same reasons as stated in reference to Claim 143.

Claim 157 is an apparatus claim corresponding to the method Claim 143, and therefore, is believed to be patentable under 35 USC 103(a) over Chang et al. and Rhoads et al. for basically the same reasons as stated in reference to Claim 143.

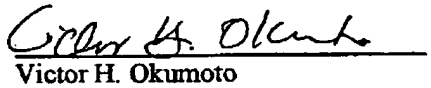
Claims 158-161 are also believed to be patentable under 35 USC 103(a) over Chang et al. and Rhoads et al. since they depend from Claim 157, and as such, are believed to be patentable for at least the same reasons as stated in reference to Claim 157.

Conclusion

Claims 112 and 114-161 are pending in the application. Claim 113 has been cancelled without prejudice. Reconsideration of the rejection of the claims is respectfully requested and an early notice of their allowance earnestly solicited.

Respectfully submitted,

Dated: April 7, 2008



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bot

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Short for *robot*, a computer program that runs automatically.

BOT

Also found in: Dictionary/thesaurus, Medical, Financial, Encyclopedia, Wikipedia, Hutchinson

Acronym	Definition
BOT	Back on Topic
BOT	Bottom
BOT	Air Botswana (ICAO code)
BOT	Bachelor of Occupational Therapy
BOT	Back on Track
BOT	Balance of Trade
BOT	Bank of Thailand
BOT	Basic Officer Training
BOT	Bastion of Thunder (gaming)
BOT	Bearings-Only Tracking
BOT	Beginning Of Table
BOT	Beginning Of Tape
BOT	Beginning Of Tour
BOT	Beginning of Track
BOT	Beginning Of Transmission
BOT	Best Of Times
BOT	Bill of Operation & Transfer
BOT	Biotronic Operational Telecommunicator (Transformers cartoon)
BOT	Blanket Open Test Assembly
BOT	Board of Trade
BOT	Board of Trustees
BOT	Books On Tape (audio books)
BOT	Botany
BOT	Botswana
BOT	Bottle
BOT	Bottom of Tape
BOT	Bottom-Up Approach
BOT	Bought
BOT	British Overseas Territory
BOT	Broad Operational Task
BOT	Broadcast Online Television
BOT	Build-Operate-Transfer (project outsourcing; information technology delivery model)
BoT	Buoni Ordinari del Tesoro (Italian: Treasury Bill)
BOT	Burst On Target
BOT	Burton-On-Trent (UK town)
BOT	Business Operations Team
BOT	Robot (especially a software agent)